U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

FEB 28 2001

Ms. Kathy Lock
Quarantine Permit Service Officer
Occupational Safety and Health Branch
National Institutes of Health, Bldg. 13-3K04
13 South Drive, MSC 5760
Bethesda, MD 20892

Reference No. 01-0009

Dear Ms. Lock:

This is in response to your letter dated January 9, 2001, regarding the applicability of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) to the transport of a specially designed Dewar flask, known as a dry shipper, which uses nitrogen, refrigerated liquid, as a refrigerant.

A dry shipper consists of an outer metal jacket and an inner shell, with the space between filled with insulation and vacuum sealed. The interior of the packaging contains a cylindrical void, which holds the material requiring refrigeration, surrounded by absorbent material. The absorbent material is saturated with nitrogen, refrigerated liquid, with all excess liquid removed. The closure of the packaging allows venting without any buildup of any internal pressure. You requested confirmation that a "dry shipper" is not regulated for purposes of transportation.

If the liquid nitrogen is absorbed into the absorbent material to the extent that there is no free liquid present in the packaging, the liquid nitrogen does not exhibit the characteristics of a "cryogenic liquid," as defined in § 173.115(g), and does not pose a hazard in transportation. Therefore, a dry shipper as described is not subject to regulation under the HMR.

If, however, the packaging is improperly offered for transportation with free liquid present, it would be subject to regulation when offered for transportation by aircraft (see § 173.320), and must be offered in accordance with the International Civil Aviation Organization's Technical Instructions for the Transport of Dangerous Goods by Air.

I hope this satisfies your request.

Sincerely,

Hattie L. Mitchell

Hattie L. Mitchell
Chief, Regulatory Review and Reinvention
Office of Hazardous Materials Standards

010009

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
Bethesda, Maryland 20892
www.nih.gov

Edmonson

January 9, 2001

§173.115(g)
Definition

Edward Mazzullo
Director of Hazardous Materials Standards
U. S. DOT/RSPA (DHM-10)
400 7th Street, SW
Washington, D.C. 20590-0001

Dear Mr. Mazzullo,

I am attaching a letter dated July 7, 1992. It was written concerning a "specially designed dewar, known as a dry shipper". We have researchers at the National Institutes of Health who use a dry shipper to transport medical specimens. We would like to have an updated letter concerning the use of this shipper.

If you have any questions concerning this letter, please contact me at 301-496-2346.

Sincerely,

Kathy Lock

Kathy Lock
Quarantine Permit
Service Officer

For further verification of "dry shipper, non-regulated", please call:

Gary Richardson
Dangerous Goods Department
Federal Express Corporation
Memphis, Tennessee
(901) 797-5988
(901) 797-5878 fax

Office of James Jones
Approval Branch
Department of Transportation
Washington, D.C.
(202) 366-4512
(202) 366-3753 fax

COPY -- ORIGINAL ON FILE

July 7, 1992

Mr. Samuel S. Elkind, Secretary
ATA Dangerous Goods Board
Air Transport Association of America
1301 Pennsylvania Avenue, NW
Washington, D.C. 20004-1707

Dr. Mr. Elkind,

This is in response to your letter dated March 13, 1992 concerning the transport of medical specimens in a specially designed dewar, known as a dry shipper, which uses nitrogen, refrigerated liquid, as a refrigerant. I apologize for the delay in responding and hope it has not caused any inconvenience.

A dry shipper similar to that addressed in your letter was provided for our examination by the BioGenetics Corporation of Mountainside, New Jersey. The packaging consists of an outer metal jacket and an inner shell, with the space between filled with insulation and vacuum sealed. The interior of the packaging contains a cylindrical void, which holds the medical specimen requiring refrigeration, surrounded by absorbent material. The absorbent material is saturated with nitrogen, refrigerated liquid, with all excess liquid removed. The closure of the packaging allows venting without any buildup of internal pressure.

It is our opinion that, because of the manner in which it is absorbed and because there is no free liquid present in the packaging, the liquid nitrogen does not exhibit the characteristic of a "cryogenic liquid" as defined in 49 CFR 173.115 (g) and does not pose a hazard in transportation. Therefore, it is not subject to regulation under this Department's Hazardous Material Regulations (49 CFR Parts 171-180).

If the packaging is improperly offered for transportation with free liquid present, it would be subject to regulation when offered for transportation by aircraft (see 49 CFR 173.320) and must be offered in accordance with International Civil Aviation Organization's (ICAO) Technical Instructions. We note that the packaging does not conform to ICAO Packaging Instruction 202 and, therefore, is not an authorized packaging when containing free liquid.

If we can be of further assistance, please feel free to contact us.

Sincerely,

Original Signed by Alan I. Roberts

Alan I. Roberts
Associate Administrator for
Hazardous Materials Safety
Department of Transportation